# INDEX, VOLUME 95

Α

ABDULLAH, ABDUL JABBAR:

Stratification of cloud layers in a stable atmosphere. 189.

Adem, Julian:

Parameterization of atmospheric humidity using cloudiness and temperature. 83.

On the relations between outgoing long-wave radiation, albedo, and cloudiness. 257.

Relations among wind, temperature, pressure, and density, with particular reference to monthly averages. 531.

Air-sea interface research, instruments used in. 936.

Aitken nuclei concentration, variation of. 925.

Albedo:

characteristics on planetary scale. 235.

relation to long-wave radiation and cloudiness. 257.

ALLEE, PAUL A .:

Annual variation of Aitken nuclei concentration at Washington, D.C. 925.

and W. E. Cobb and B. B. Phillips. Note on mountain-top measurements of atmospheric electricity in northwestern United States. 912.

Analysis:

cold Low over Caribbean. 763.

low latitudes. 11.

numerical, filtering responses. 45.

system, tropical, operational. 942.

Anderson, R. V.:

Measurement of worldwide diurnal atmospheric electricity variations. 899.

Andrews, James F.:

The weather and circulation of March 1967—A mild month associated with confluent flow over mid-North America. 383.

ANGELL, J. K .:

Correspondence—Comments on "Large irregularities of rawinsonde ascensional rates within 100 nautical miles and three hours of reported clear air turbulence." 642.

and J. Korshover. Biennial variation in springtime temperature and total ozone in extratropical latitudes. 757.

Angular momentum transport. 427.

Antarctica, wind shear in boundary layer. 627.

ARMSTRONG, GRAHAM M .:

and R. Wexler and A. C. Chmela. Wind Field observation by Doppler radar in a New England snowstorm. 929.

Atmospheric modulation of geomagnetic daily variations. 1.

AUER, AUGUST H., JR.:

Weather Note-Tornadoes in northeastern Colorado, 1965. 32.

В

Barotropic, non-divergent model for low-latitude analysis. 11. Bedient, Harold A.:

and W. G. Collins and G. Dent. An operational tropical analysis system. 942.

Beta-plane planetary waves. 441.

Bibliography of scientific publications by Ross Gunn. 821.

Biennial variation in temperature and ozone. 757.

Biography of Ross Gunn. 815.

BJÖRNSSON, SVEINBJÖRN:

and D. C. Blanchard. Water and the generation of volcanic electricity. 895.

BLANCHARD, DUNCAN C .:

and S. Björnsson. Water and the generation of volcanic electricity. 895.

Brelsford, William M.:

and R. H. Jones. Estimating probabilities. 570.

BUNTING, JAMES T .:

and W. L. Woodley, J. H. Golden, and B. C. Halter. Weather Note—Aircraft observations in the immediate vicinity of two waterspouts. 799.

Burrows, D. A.:

and P. V. Hobbs and W. D. Scott. Factors affecting the electric charge acquired by an ice sphere moving through natural snowfall. 878.

C

CARLSON, TOBY N.:

Weather Note—Isentropic upslope motion and an instance of heavy rain over southern Florida. 213.

Structure of a steady-state cold Low. 763.

CASKEY, JAMES E., JR.:

Acknowledgments (to Gunn Memorial Issue). 814.

CHANGNON, STANLEY A., JR.:

Method of evaluating substation records of hail and thunder. 209.

CHEMLA, ALBERT C.:

and R. Wexler and G. M. Armstrong. Wind field observations by Doppler radar in a New England snowstorm. 929.

Chiang, Y.

and R. L. Pfeffer. Two kinds of vacillation in rotating laboratory experiments. 75.

Cirrus in tropical storms. 111.

CLARK, JAMES R.:

and R. E. Nagle, M. M. Holl, and C. A. Riegel. Formulation and testing of a program for the objective assembly of meteorological satellite cloud observations. 171.

Clear air turbulence related to irregularities in rawinsonde ascensional rates. 99.

Climatology, simulated, of general circulation model with hydrologic cycle in tropical atmosphere. 155.

Cloud drops, collision efficiency. 917.

Cloudiness:

numerical prediction of. 261.

relation to albedo and long-wave radiation. 257.

used to parameterize humidity. 83.

Clouds:

equatorial and tropical Pacific. 657.

layer stratification by gravity waves. 189.

COBB. WILLIAM E .:

Evidence of a solar influence on the atmospheric electric elements at Mauna Loa Observatory, 905.

and B. B. Phillips and P. A. Allee. Note on mountain-top measurements of atmospheric electricity in northwestern United States, 912.

Cold Low structure. 763.

COLLINS, WILLIAM G.:

and H. A. Bedient and G. Dent. An operational tropical analysis system. 942.

and L. W. Vanderman. Operational-experimental numerical forecasting for the Tropics. 950.

Collision efficiency of cloud drops. 917.

Colorado, tornadoes in. 32.

Contents, vol. 95. 967.

COOK, DOYLE:

A practical evaporimeter, 452.

Correction notices: 234, 346, 721, 966.

Correspondence:

clear-air turbulence. 642.

hurricanes, economic aspects of. 482.

oreigenic vs. orographic. 699.

rawinsonde ascensional rates. 642.

reply, 147, 308, 482, 644, 646,

satellite cloud observations. 645.

tropical cyclone forecast accuracy. 308.

tropical storms Becky and Celia. 147.

weather and circulation. 147.

Cumulus:

cloud lines vs. surface wind. 203.

convection in hurricane. 55.

D

DECKER, FRED W .:

Correspondence—Comments on the adjectives "Oreigenic" and "Orographic." 699.

DELAND, RAYMOND J.:

and Y. Lin. On the movement and prediction of traveling planetary-scale waves. 21.

Density, relation to wind, temperature, and pressure, monthly averages. 531.

DENT. GLORIA:

and H. A. Bedient and W. G. Collins. An operational tropical analysis system. 942.

DICKSON, ROBERT R .:

The weather and circulation of December 1966—Blocking over North America. 148.

The weather and circulation of July 1967—Unusually cool east of the divide. 700.

and J. Posey. Maps of snow-cover probability for the Northern Hemisphere. 347.

Disturbances, development of synoptic-scale, over subtropical oceans. 341.

Diurnal variation:

atmospheric electricity. 899.

geomagnetic declination. 1.

kinetic energy. 593.

Divergence in troposphere over Caribbean. 778.

Drought over northeastern U.S. 497.

DUNCAN, LOUIS D.:

and H. Rachele. Desirability of using a fast sampling rate for computing wind velocity from pilot-balloon data. 198.

E

EAGLEMAN, JOE R.:

Tornado damage patterns in Topeka, Kansas, June 8, 1966. 370.

Economic aspects of hurricanes. 143.

Electricity, atmospheric:

charge acquired by ice sphere. 878.

charge convected in thunderstorm. 863.

charge distribution in thunderstorm. 847.

charged water drops. 884.

conductivity and ionic equilibrium in thunderstorms. 854.

diurnal variations, world-wide. 899.

generation of volcanic. 895.

lightning strokes, 827.

lightning triggered by aircraft. 835.

mountain-top measurements. 912.

radio emission from convective clouds. 871.

solar influence. 905.

EPSTEIN, EDWARD S.:

and M. E. Graves. Specification of 500-mb. parameters by downward extrapolation. 375.

Equatorial meteorology (see "tropical meteorology")

ERICKSON, CARL L .:

Some aspects of the development of hurricane Dorothy. 121. Evaporation, measurement of. 452.

Evaporimeter. 452.

Experiments, laboratory, vacillations in rotating fluid. 75.

F

FERGUSON, EDWARD W .:

and F. C. Opatka. Picture of the month, 47.

and F. Parmenter. Picture of the month. 170.

Filtering responses of weight functions in numerical analysis. 45. Fitzgerald, Donald R.:

Probable aircraft "triggering" of lightning in certain thunderstorms. 835.

Florida:

heavy rain in south. 213.

waterspouts over Keys. 799.

Fluid rotation, laboratory experiments. 75.

Forecasting (see "prediction")

FRANK, NEIL L.:

Picture of the month—Three hurricanes on one satellite pass. 954.

FREIER, GEORGE D.:

The relaxation time of air in thunderstorms. 843.

Frictionally produced wind shear. 627.

G

GABY, DONALD C .:

Cumulus cloud lines vs. surface wind in equatorial latitudes 203.

General circulation:

mean meridional. 705, 723.

model. 155, 389.

zonal. 723.

Geomagnetic daily variation, atmospheric modulation of. 1.

Geopotential height, specification at 500 mb. by downward extrapolation. 375.

George, D. C.:

and T. G. Owe Berg. Investigations of charged water drops. 884.

GERRITY, JOSEPH P., JR.:

A physical-numerical model for the prediction of synopticscale low cloudiness. 261.

GOLDEN, JOSEPH H .:

and W. L. Woodley, B. C. Halter, and J. T. Bunting. Weather Note—Aircraft observations in the immediate vicinity of two waterspouts, 799.

GRAVES, MAURICE E.:

and E. S. Epstein. Specification of 500-mb. parameters by downward extrapolation. 375.

Gravity waves, internal. 189.

GRAY, WILLIAM M .:

The mutual variation of wind, shear, and baroclinicity in the cumulus convective atmosphere of the hurricane. 55.

Great Lakes:

cloud distribution. 804.

ice season of 1967. 685.

GREEN, RAYMOND A .:

The weather and circulation of April 1967—Numerous temperature extremes and extensive blocking. 491.

Gunn, K. L. S.:

The number flux of snow crystals at the ground. 921.

Gunn, Ross—The scientist and the man (biographical memoir). 815.

Gunn, Ross:

patents of. 826.

scientific publications of. 821.

Н

Hail and thunder records evaluation. 209.

HALTER, BRADLEY C .:

and W. L. Woodley, J. H. Golden, and J. T. Bunting. Weather Note—Aircraft observations in the immediate vicinity of two waterspouts. 799.

HANSON, KIRBY J.:

and T. H. Vonder Haar and V. E. Suomi. Reflection of sunlight to space and absorption by the earth and atmosphere over the United States during spring 1962. 354.

HELLERMAN, S.:

An updated estimate of the wind stress on the world ocean. 607.

High atmosphere activity, index of. 6.

Новвя, Р. V.:

and D. A. Burrows and W. D. Scott. Factors affecting the electric charge acquired by an ice sphere moving through natural snowfall. 878.

HODGE, MARY W.:

Large irregularities of rawinsonde ascensional rates within 100 nautical miles and three hours of reported clear air turbulence. 99.

Correspondence—Reply (to comments on "Large irregularities of rawinsonde ascensional rates within 100 nautical miles and three hours of reported clear air turbulence"). 644.

HOLL, MANIFRED M .:

and R. E. Nagle, J. R. Clark, and C. A. Riegel. Formulation and testing of a program for the objective assembly of meteorological satellite cloud observations. 171.

HOLLOWAY, J. LEITH, JR.:

and Y. Kurihara. Numerical integration of a nine-level global primitive equations model formulated by the box method. 509.

HOOVER, EUGENE W .:

Correspondence—Comments on "Accuracy of Atlantic tropical cyclone forecasts." 308.

HORNSTEIN, R. A.:

Correspondence—Comments on "The weather and circulation of July 1966." 147.

HUANG, CHIN-HUA:

and H. A. Panofsky and A. Schwalb. Some relationships between synoptic variables and satellite radiation data. 483.

Humidity:

parameterization using cloudiness and temperature. 83. relative, estimated from satellite cloud pictures. 791.

Hurricanes:

Betsy (1965), sea-surface temperature. 299.

Beulah (1967). 954.

Chloe (1967). 954.

cumulus convection in. 55.

Doria (1967). 954.

Dorothy (1966), development of. 121.

economic aspects of. 143.

season of 1966, Atlantic. 131.

structure in troposphere and stratsophere. 541.

variation of wind, shear, and baroclinicity. 55.

Hydrologic cycle in general circulation model of tropical atmosphere. 155.

ı

Ice season of 1967 on Great Lakes. 685.

Ice sphere falling through snowfall, charge acquired by. 878.

Index of high-atmosphere activity. 6.

Index, vol. 95, 970.

Instability, baroclinic, as function of zonal wind profile. 733.

Instruments, aircraft and shipborne, compatibility. 936.

Inversion heights estimated from radar measurements. 577.

JAMES, D. G.:

Indirect measurements of atmopsheric temperature profiles from satellites: IV. Experiments with the phase I satellite infrared spectrometer. 457.

and D. Q. Wark and F. Saiedy. Indirect measurements of atmospheric temperature profiles from satellites: VI. High-altitude balloon testing, 468.

JELESNIANSKI, CHESTER P.:

Numerical computations of storm surges with bottom stess. 740. Jet streams, associated with tornadoes. 107.

JETTON, ELDEN V.:

and C. E. Woods. Weather Note—Heavy rains in southeastern New Mexico and southwestern Texas, August 21–23, 1966. 221.

JONES, RICHARD H.:

and W. M. Brelsford. Estimating probabilities. 570.

JORGENSEN, DONALD L .:

Correspondence—Comments on "Accuracy of Atlantic tropical cyclone forecasts." 308.

K

Kansas:

tornado damage patterns in Topeka. 370.

KASAHARA, AKIRA:

and W. M. Washington. NCAR global general circulation model of the atmosphere. 389.

Kinetic energy generation and dissipation, diurnal and long-term variations. 593.

Korshover, J.:

and J. K. Angell. Biennial variation in springtime temperature and total ozone in extratropical latitudes. 757.

Koss, Walter James:

Further theoretical considerations of tropospheric wave motions in equatorial latitudes. 283.

Koteswaram, P.:

On the structure of hurricanes in the upper troposphere and lower stratosphere. 541.

KUHN, PETER M .:

and J. D. McFadden. Atmospheric water vapor profiles derived from remote-sensing radiometer measurements. 565.

Kung, Ernest C.:

Diurnal and long-term variations of the kinetic energy generation and dissipation for a five-year period. 593.

KURIHARA, YOSHIO:

and J. L. Holloway, Jr. Numerical integration of a nine-level global primitive equations model formulated by the box method. 509.

L

LATEEF, M. A.:

Vertical motion, divergence, and vorticity in the troposphere over the Caribbean, August 3–5, 1963. 778.

LETHBRIDGE, MAE:

Precipitation probability and satellite radiation data. 487.

LETTAU, BERNHARD:

Thermally and frictionally produced wind shear in the planetary boundary layer at Little America, Antarctica. 627.

Lightning strokes:

mechanism. 827.

triggered by aircraft. 835.

LIN, YEONG-JER:

and R. J. Deland. On the movement and prediction of traveling planetary-scale waves. 21.

LINDZEN, RICHARD D.:

Planetary waves on beta-planes. 441.

LOEB, LEONARD B .:

Contributions to the mechanisms of the lightning stroke. 827.

### M

MANABE, SYUKURO:

and J. Smagorinsky. Simulated climatology of a general circulation model with a hydrologic cycle. II: Analysis of the tropical atmosphere. 155.

Mauna Loa Observatory, electric elements at. 905.

McFadden, James D.:

Sea-surface temperatures in the wake of hurricane Betsy (1965). 299.

and P. M. Kuhn. Atmospheric water vapor profiles derived from remote-sensing radiometer measurements. 565.

and J. W. Wilkerson. Compatibility of aircraft and shipborne instruments used in air-sea interaction research. 936.

MERRITT, EARL S.:

and R. Wexler. Cirrus canopies in tropical storms. 111.

Meteorological activity of high atmosphere, index of. 6.

MILLER, A. J.:

and S. Teweles and H. M. Woolf. Seasonal variation of angular momentum transport at 500 mb. 427.

MILLER, ALVIN J.:

and R. S. Quiroz. Note on the semi-annual wind variation in the equatorial stratosphere. 635.

MILLER, MARVIN E .:

Forecasting afternoon mixing depths and transport wind speeds. 35.

Mixing depths, prediction of. 35.

Moisture and temperature profiles from satellite radiation data. 363.

#### Ν

NAGATANI, RONALD:

and J. Vederman. Clouds over the equatorial and tropical Pacific—An investigation based on TIROS satellite and jet aircraft observations. 657.

NAGLE, ROLAND E.:

Correspondence—Reply (to comments on "Formulation and testing of a program for the objective assembly of meteorological satellite cloud observations"). 646.

and J. R. Clark, M. M. Holl, and C. A. Riegel. Formulation and testing of a program for the objective assembly of meteorological satellite cloud observations. 171.

NAMIAS, JEROME:

Further studies of drought over northeastern United States. 497.

NCAR general circulation model. 389.

NEIBURGER, M.:

Collision efficiency of nearly equal cloud drops. 917.

NEILD, R. E.:

Maximum-minimum temperatures as a basis for evaluating thermoperiodic response, 583.

New England snowstorm winds observed by Doppler radar. 929. NITTA, TAKASHI:

Dynamical interaction between the lower stratosphere and the troposphere. 319.

Nuclei, Aitken, concentration of. 925.

Numerical forecasting in Tropics. 950.

Numerical integration of:

omega equation. 303.

primitive equations. 509.

storm surge equations, 740.

O

Omega equation, numerical solution. 303.

O'NEILL, THOMAS H. R.:

and D. W. Stuart. The over-relaxation factor in the numerical solution of the omega equation. 303.

ОРАТКА, Г. С.:

and E. W. Ferguson. Picture of the Month. 47.

OWE BERG, T. G.:

and D. C. George. Investigations of charged water drops. 884. Ozone, total, biennial variation. 757.

P

PANOFSKY, H. A.:

and C.-H. Huang and A. Schwalb. Some relationships between snyoptic variables and satellite radiation data. 483.

PAPPAS, R. G.:

An objective method for estimating inversion heights above San Diego based on radar measurements. 577.

PARMENTER, FRANCES C .:

Picture of the Month. 298, 340, 480, 585, 648, 697, 804.

and E. W. Ferguson. Picture of the Month. 170.

Patents of Ross Gunn. 826.

PFEFFER, RICHARD L.:

and Y. Chiang. Two kinds of vacillation in rotating, laboratory experiments. 75.

PHILLIPS, BYRON B.:

Charge distribution in a quasi-static thundercloud model. 847. Convected charge in thunderstorms. 863.

Ionic equilibrium and the electrical conductivity in thunderclouds. 854.

and W. E. Cobb and P. A. Allee. Note on mountain-top measurements of atmospheric electricity in northwestern United States. 912.

and H. K. Weickmann, Foreword (to Gunn Memorial Issue). 813.

Picture of the month:

Cloud distribution over Great Lakes area. 804.

cloud pattern in positive vorticity area. 170.

cold outbreak. 47, 340.

cumulonimbus clusters. 697.

fog in valleys. 153.

frontal cloud band. 585.

hurricanes Beulah, Chloe, and Doria (1967). 954.

ice pack. 298.

pre-frontal convective clouds. 98.

sand and dust storms. 480.

tropical depressions. 648.

Pilot-balloon data, sampling rate. 198.

Planetary waves. 21, 441.

Posey, Julian W.:

Correspondence—Reply (to comments on "The weather and circulation of July 1966"). 147.

The weather and circulation of August 1967—Unusually cool east of the Rockies and very warm in the far west. 806.

The weather and circulation of February 1967—Cold in the east but continued warm in the west. 311.

and R. R. Dickson. Maps of snow-cover probability for the Northern Hemisphere. 347.

Precipitation:

heavy rain:

in southeastern New Mexico. 221.

in southern Florida. 213.

in southwestern Texas. 221.

orographic, dynamic model of. 673.

orographic vs. oreigenic. 699.

probability of, related to satellite radiation data. 487.

Prediction:

low cloudiness. 261.

latitudes. 11.

```
Prediction (Continued)
                                                                                                     S
     mixing depths in afternoon, 35.
                                                                     SAIEDY, F .:
    movement of planetary waves. 21.
                                                                         and D. Q. Wark and D. G. James. Indirect measurements of
    storm surges. 740.
                                                                           atmospheric temperature profiles from satellites: VI. High-
    transport wind speeds. 35.
                                                                           altitude balloon testing. 468.
     tropical, 950.
                                                                     SARKER, R. P.:
Pressure relation to:
                                                                         Some modifications in a dynamical model of orographic rainfall.
    wind in low latitudes. 11.
                                                                           673.
    wind, temperature, and density. 531.
                                                                     SARTOR, J. D.:
Primitive equations, numerical integration of. 509
                                                                         Remote sensing of radio emission from convective clouds
Probability:
                                                                           including transmission via sporadic E. 871.
    estimation of, 570.
                                                                     Satellite meteorology:
    of precipitation. 487.
                                                                         absorption and reflection of sunlight. 354.
    snow-cover maps. 347.
                                                                         albedo. 235.
Publications:
                                                                         cirrus canopies in tropical storms. 111.
    by Ross Gunn. 821.
                                                                         cloud data:
    new ESSA. 146.
                                                                             assembly of. 111.
    selected, by ESSA authors. 20, 74, 188, 540.
                                                                             used to estimate relative humidity. 791.
                                                                         clouds over tropical Pacific. 657.
                                                                         hurricane development. 111.
QUIROZ, RODERICK S.:
                                                                         moisture profiles. 363.
    and A. J. Miller. Note on the semi-annual wind variation in
                                                                         precipitation probability, 487.
       the equatorial stratosphere. 635.
                                                                         radiation. 235, 363, 483, 487.
                                                                         temperature profiles. 363, 457, 463, 468.
RACHELE, HENRY.:
                                                                     SCHWALB, ARTHUR:
    and L. D. Duncan. Desirability of using a fast sampling rate for
                                                                         and C.-H. Huang and H. A. Panofsky. Some relationships be-
      computing wind velocity from pilot-balloon data. 198.
                                                                           tween synoptic variables and satellite radiation data. 483.
Radar, Doppler, used to observe wind in snowstorm. 929.
                                                                     Scientific publications of Ross Gunn. 821.
Radar measurements used to estimate inversion heights. 577.
                                                                     SCOTT, W. D.:
                                                                         and D. A. Burrows and P. V. Hobbs. Factors affecting the
    long-wave, on planetary scale. 235.
                                                                           electric charge acquired by an ice sphere moving through
    measurements from satellites. 363.
                                                                           natural snowfall. 878.
    related to:
                                                                    SKAGGS, RICHARD H .:
        albedo and cloudiness. 257.
                                                                         On the association between tornadoes and 500-mb, indicators of
        precipitation probability, 487.
                                                                           jet streams. 107.
        synoptic variables. 483.
                                                                    SMAGORINSKY, JOSEPH:
Radio emission from convective clouds. 871.
                                                                         and S Manabe. Simulated climatology of a general circulation
Radiometer, remote-sensing, for inferring water vapor profiles. 565.
                                                                           model with a hydrologic cycle. II: Analysis of the tropical
Rain (see "precipitation")
                                                                           atmosphere. 155.
RASMUSSON, EUGENE M.:
                                                                    SMITH, WILLIAM L.:
    Atmospheric water vapor transport and the water balance of
                                                                         An iterative method for deducing tropospheric temperature and
      North America: Part 1. Characteristics of the water vapor
                                                                           moisture profiles from satellite radiation measurements. 363.
      flux field, 403.
                                                                    SNIDER, C. R.:
Rawinsonde ascensional rates irregularities related to clear air
                                                                         Great Lakes ice season of 1967, 685.
  turbulence. 99.
                                                                    Snow-cover probability maps. 347.
REEVES, ROBERT W .:
    and S. L. Rosenthal. Some elementary theoretical considera-
                                                                    Snow crystals, flux at ground. 921.
      tions of the relationships between wind and pressure in low
                                                                    Solar influence on atmospheric electric elements. 905.
      latitudes, 11.
                                                                    Spectrometer, infrared. 457, 463, 468.
REICHELDERFER, F. W.:
                                                                    Spherical harmonics of geopotential field. 21.
    Ross Gunn—The scientist and the individual. 815.
                                                                    Sporadic E, transmission of radio emission from convective clouds
Relaxation factor in numerical solution of omega equation. 303.
                                                                       via. 871.
Relaxation time of air in thunderstorms. 843.
                                                                    STARK, L. P.:
Remote sensing of:
                                                                         The weather and circulation of May 1967-Strong blocking
    moisture and temperature profiles. 363.
                                                                           and record cold in the east. 587.
    radio transmission from convective clouds. 871.
                                                                         The weather and circulation of October 1966-Cool weather
    temperature profiles. 457, 463, 468.
                                                                           with strong polar blocking. 49.
RIEGEL, CHRISTOPHER A.:
                                                                    STEPHENS, J. J.:
    and R. E. Nagle, J. R. Clark, and M. M. Holl. Formulation and
                                                                         Filtering responses of selected distance-dependent weight
      testing of a program for the objective assembly of me-
                                                                           functions. 45.
      teorological satellite cloud observations. 171.
                                                                    Storm surge, numerical computation of. 740.
ROSENTHAL, STANLEY L.:
                                                                    Stratosphere:
    On the development of synoptic-scale disturbances over the
                                                                         equatorial, wind variation in, 635.
      subtropical oceans. 341.
                                                                         interaction with troposphere. 319.
    and R. W. Reeves. Some elementary theoretical considerations
                                                                         structure of hurricanes in. 541.
      of the relationships between wind and pressure in low
```

Stress, bottom, in storm surges. 740.

STUART, DAVID W .:

and T. H. R. O'Neill. The over-relaxation factor in the numerical solution of the omega equation. 303.

Sugg, Arnold L.:

The hurricane season of 1966. 131.

Economic aspects of hurricanes, 143.

Correspondence—Reply (to comments on "Economic aspects of hurricanes"). 482.

Suggestions for authors. ii, 440, 722.

Sunlight, reflection and absorption. 354.

SUOMI, VERNER E .:

and K. J. Hanson and T. H. Vonder Haar. Reflection of sunlight to space and absorption by the earth and atmosphere over the United States during spring 1962. 354.

T

# Temperature:

biennial variation, 757.

profiles from satellite radiation data. 363, 457, 463, 468.

relation to wind, pressure and density. 531.

sea surface, in wake of hurricane. 299.

used to:

estimate thermoperiodic response. 583.

parameterize humidity. 83.

TEWELES, S.:

and A. J. Miller and H. M. Woolf. Seasonal variation of angular momentum transport at 500 mb. 427.

Thermally produced wind shear. 627.

Thermoperiodic response of plants. 583.

THOMPSON, AYLMER H .:

and P. W. West. Use of satellite cloud pictures to estimate average relative humidity below 500 mb. with application to the Gulf of Mexico area. 791.

Thunder and hail records evaluation. 209.

Thunderstorm:

charge convected in. 863.

charge distribution in. 847.

ionic equilibrium and conductivity in. 854.

lightning:

stroke mechanism. 827.

triggered by aircraft. 835.

relaxation time of air in. 843.

Tornadoes:

Colorado, northeastern. 32.

jet streams and 500-mb. association with. 107.

Kansas, damage patterns. 370.

TRACY, JACK D.:

Correspondence—Reply (to comments on "Accuracy of Atlantic tropical cyclone forecasts"). 308.

Tropical meteorology:

cirrus in tropical storms. 111.

clouds over Pacific. 657.

cold Low structure. 763.

cumulus clouds and surface wind. 203.

development of sub-tropical disturbances over oceans. 341.

general circulation. 155.

hurricanes. 55, 121, 131, 143, 299, 541.

hydrologic cycle. 155.

operational analysis system. 942.

relative humidity estimated from cloud pictures. 791.

simulated climatology. 155.

tropospheric wave motions. 283.

vertical motion, divergence, and vorticity. 778.

wind variations in stratosphere. 635.

Troposphere:

interaction with stratosphere. 319.

structure of hurricanes in upper. 541.

V

Vacillation in rotating annulus of fluid. 75.

VAN CLEEF, F .:

and M. Wolk and G. Yamamoto. Indirect measurements of atmospheric temperature profiles from satellites: V. Atmospheric soundings from infrared spectrometer measurements at the ground. 463.

VANDERMAN, LLOYD W .:

and W. G. Collins. Operational-experimental numerical forecasting for the Tropics. 950.

VEDERMAN, JOSEPH:

and R. Nagatani. Clouds over the equatorial and tropical Pacific—An investigation based on TIROS satellite and jet aircraft observations. 657.

VERNEKAR, ANANDU D.:

On mean meridional circulations in the atmosphere. 705.

and A. Wiin-Nielsen. On the influence of the mean meridional circulation on the zonal flow. 723.

Vertical motion in troposphere over Caribbean. 778.

VONDER HAAR, THOMAS H.:

and K. J. Hanson and V. E. Suomi. Reflection of sunlight to space and absorption by the earth and atmosphere over the United States during spring 1962. 354.

Vorticity equation, spherical harmonics form of. 21.

Vorticity in troposphere over Caribbean. 778.

## W

WAGNER, A. JAMES:

The weather and circulation of June 1967—A cool month with excessive rainfall in the plains. 650.

The weather and circulation of September 1967—A month of continued record warmth in the West, coolness in the East, and frequent tropical activity. 956.

The weather and circulation of November 1966—A mild month with two intense Midwest storms and a record early cold spell. 89.

WARK, D. Q.:

and F. Saiedy and D. G. James. Indirect measurements of atmospheric temperature profiles from satellites: VI. Highaltitude balloon testing, 468.

WASHINGTON, WARREN M .:

and A. Kasahara. NCAR global general circulation model of the atmosphere. 389.

Water and generation of volcanic electricity. 895.

Water balance of North America. 403.

Water drops, charged. 884.

Water vapor:

flux 403.

profiles from radiometer data. 565.

Waterspouts over Florida Keys. 799.

WATSON, BRUCE F .:

Correspondence—Comments on "Formulation and testing of a program for the objective assembly of meteorological satellite cloud observation." 645.

Wave motions, tropospheric. 283.

Waves

gravity, in stable atmosphere. 189. planetary, on beta planes. 441.

Weather Notes:

heavy rain:

in southern Florida. 213.

in southeastern New Mexico. 221.

in southwestern Texas. 221.

tornadoes in northeastern Colorado. 32. waterspouts over Florida Keys. 799.

Weather, U.S.:

cold spell. 89, 587.

Weather, U.S. (Continued)

drought over Northeast. 497.

heavy rain:

in Florida. 213.

in Plains. 650.

in southeastern New Mexico. 221.

in southwestern Texas. 221.

ice season (1967) in Great Lakes, 685.

monthly résumés (Oct. 1966-Sept. 1967). 49, 89, 148, 227, 311, 383, 491, 587, 650, 700, 806, 956.

storms in Midwest. 89.

WEICKMANN, HELMUT K .:

and B. B. Phillips. Foreword (to Gunn Memorial Issue). 813. West, Philip W.:

and A. H. Thompson. Use of satellite cloud pictures to estimate average relative humidity below 500 mb. with application to the Gulf of Mexico area. 791.

WEXLER, RAYMOND:

and A. C. Chmela and G. M. Armstrong. Wind field observations by Doppler radar in a New England snowstorm. 929. and E. S. Merritt. Circus canopies in tropical storms. 111.

Winn-Nielsen, A.:
On baroclinic instability as a function of the vertical profile
of the zonal wind. 733.

and A. D. Vernekar. On the influence of the mean meridional circulation on the zonal flow. 723.

WILKERSON, JOHN W .:

and J. D. McFadden. Compatibility of aircraft and shipborne instruments used in air-sea interaction research. 936.

WILSON, WALTER T .:

Correspondence—Comments on "Economic aspects of hurricanes." 482.

Wind:

relation to:

pressure in low latitudes. 11.

pressure, temperature, and density. 531.

shear and baroclinicity in hurricane. 55.

shear in planetary boundary layer. 627.

snowstorm. 929.

speeds and transport, prediction of. 35.

stress on ocean. 607.

surface, and cumulus clouds. 203.

variation in stratosphere. 635.

velocity computed from pilot-balloon data. 198.

zonal, vertical profile of. 733.

WINKLER, WILLIAM R.:

The weather and circulation of January 1967—A mild month with unusually high zonal index. 227.

WINSTON, JAY S.:

Planetary-scale characteristics of monthly mean long-wave radiation and albedo and some year-to-year variations. 235.

**Volk.** М.:

and F. Van Cleef and G. Yamamoto. Indirect measurements of atmospheric temperature profiles from satellites: V. Atmospheric soundings from infrared spectrometer measurements at the ground. 463.

WOODLEY, WILLIAM L.:

and J. H. Golden, B. C. Halter, and J. T. Bunting. Weather Note—Aircraft observations in the immediate vicinity of two waterspouts. 799.

WOODS, CALVIN E .:

and E. V. Jetton. Weather Note—Heavy rains in southeastern New Mexico and southwestern Texas, August 21–23, 1966. 221.

Woolf, H. M.:

and A. J. Miller and S. Teweles. Seasonal variation of angular momentum transport at 500 mb. 427.

WULF, OLIVER REYNOLDS:

On pronounced atmospheric modulation of the geomagnetic daily variation, 1.

Toward an index of high-atmosphere meteorological activity. 6.

Υ

**У**амамото, G.:

and M. Wolk and F. Van Cleef. Indirect measurements of atmospheric temperature profiles from satellites: V. Atmospheric soundings from infrared spectrometer measurements at the ground. 463.

Z

Zonal flow:

influence of meridional circulation on. 723. vertical profile of, influence on baroclinic instability. 733.